



Candida parapsilosis endocarditis in an immunocompetent host

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ABSTRACT

This case describes an 83-year-old immunocompetent woman who presented to the emergency department with complaints of nausea, vomiting, and dizziness. She was found to have evidence of embolic stroke secondary to *Candida parapsilosis* endocarditis. This case emphasizes the challenge of diagnosing fungal endocarditis, as it can be difficult to culture, and the importance of broad differentials even in patients with no obvious risk factors.

KEYWORDS *Candida parapsilosis*; endocarditis; immunocompetent host

Candida parapsilosis is a pathogen that has become more common in infectious endocarditis, especially those of fungal etiology. Risk factors for *Candida* endocarditis are an immunocompromised state, intravenous drug abuse, total parenteral nutrition, hematological malignancies, cardiothoracic surgery, and central venous catheterization. Prompt detection and treatment is imperative, as vegetations in fungal endocarditis can cause more frequent hemorrhagic and embolic events, contributing to its increased morbidity and mortality.^{1,2}

CASE DESCRIPTION

An 83-year-old woman presented to the hospital with complaints of nausea, headaches, and dizziness. She had a past medical history of paroxysmal atrial fibrillation, hypertension, and prior myocardial infarction requiring angioplasty. She had never smoked and denied intravenous drug abuse. She had no history of recent travel or exposure to animals. At presentation, her vitals were normal and the physical exam was noncontributory. Laboratory results were within normal limits, aside from an elevated troponin I of 0.40 ng/mL. An electrocardiogram was nonischemic in nature. She was admitted for possible non-ST segment elevation myocardial infarction.

Despite the lack of chest pain, her troponin level continued to rise and peaked at 0.9 ng/mL. She underwent cardiac catheterization and was found to have no angiographic evidence of obstructive coronary artery disease requiring intervention. A transthoracic echocardiogram revealed a large echodensity on the mitral valve measuring 3×1.2 cm with moderate mitral regurgitation. Follow-up transesophageal echocardiogram showed a 2.7×0.9 cm mobile serpiginous mass attached to the mitral valve chordae (*Figure 1*). Magnetic resonance imaging of the brain confirmed two foci of acute ischemia.

She underwent mitral valve replacement with a bioprosthetic valve. Operative findings revealed that the integrity of the mitral valve was severely compromised and there was a large vegetation on the posterior leaflet. Blood cultures remained negative but surgical cultures grew *C. parapsilosis*. A test for human immunodeficiency virus was negative. In addition to anticoagulation after valve replacement, she was treated with fluconazole.

DISCUSSION

Infective endocarditis is characterized by the deposition of vegetations on the surfaces of heart valves and can be caused by bacterial, fungal, or noninfectious etiologies.

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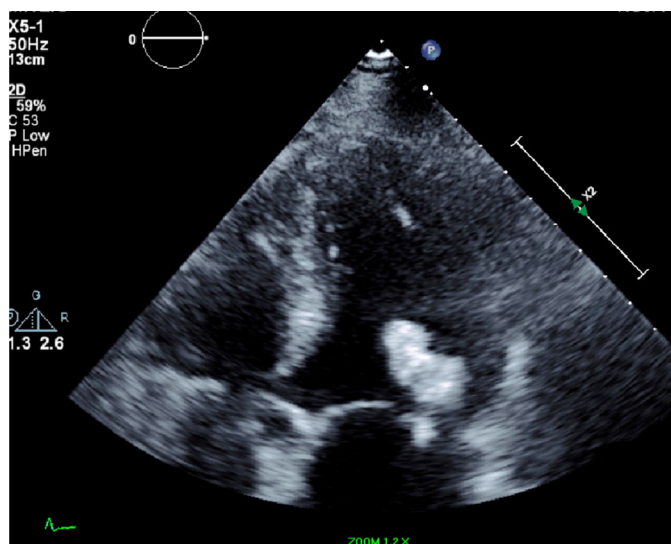


Figure 1. Transthoracic echocardiogram, four-chamber view, showing mitral annular calcification and a long, mobile, serpiginous mass (2.7×0.9 cm) below the mitral valve posterior leaflet, attached to the mitral valve chordae.

Fungal endocarditis is rare, accounting for about 1.3% to 6% of total cases; however, the mortality rate can be quite high.¹ Vegetations are bulkier, and embolic complications occur more frequently when compared to other etiologies.² Clinically, patients can present with concurrent candidemia, but since *Candida* can be difficult to culture, it commonly presents as culture-negative endocarditis.³ Diagnosis is made by visualization of a vegetation seen on echocardiogram or by positive tissue cultures.

In addition to the appropriate antimicrobial regimen, surgery may be indicated. Fungal endocarditis is an absolute indication for valve replacement. In our case, given this patient's large vegetation (>10 mm) and evidence of an

embolic event on magnetic resonance imaging, she met American College of Cardiology/American Heart Association criteria for surgical treatment.⁴ However, even with surgery, fungal infections often require chronic suppressive therapy due to high rates of relapse. In addition to valve replacement, our patient was treated with fluconazole and will remain on chronic suppression. While rare, this case demonstrates a non-albicans *Candida* endocarditis that affected an immunocompetent patient with seemingly no discernible fungal risk factors. It also demonstrates an atypical location for a mitral vegetation, noted to be on the ventricular side rather than the more commonly seen atrial side.¹ Fortunately, our patient had a favorable outcome, with early detection of the vegetation and aggressive intervention to prevent further complications.

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